

Watershed Database and Mapping Project/Delaware Estuary Watershed

Protection and restoration of coastal watersheds requires the synthesis of complex environmental information. Making decisions about hazardous waste site cleanup actions, dredging and disposal of contaminated sediment, and habitat restoration can be difficult because of the large number of parties involved and the breadth of information that informs these decisions.

The National Oceanic and Atmospheric Administration (NOAA) has developed decision-support tools for specific watersheds. These tools combine the use of a standard database structure; a database-mapping application (Query Manager/ MARPLOT); and an ArcView GIS project. Contaminant concentrations in sediment, results of sediment toxicity tests, and other types of environmental data are overlaid on a watershed's features and land uses, to be analyzed and displayed on maps at flexible spatial scales. This approach simplifies data synthesis, communication of critical information, and facilitates multi-party decision-making.

NOAA has used this approach in several watersheds affected by contaminant releases from Superfund sites and other sources. The Anacostia River, Hudson River, Newark Bay, and San Francisco Bay are some examples of where this approach has been applied (see <http://response.restoration.noaa.gov/watersheddownloads>). The watershed projects use a standardized structure along with special information tailored to the primary objectives of each watershed.

The Delaware Estuary Watershed, located along the mid-Atlantic coast, extends across portions of Delaware, New Jersey and Pennsylvania, encompassing all of the Delaware Bay and the tidal reaches of the Delaware River. Although impacted and degraded by human activities, this rich estuarine ecosystem is a critical component of the economic well-being of the region, supporting industry, fishing, transportation, natural resources, and recreation, and it is home to millions of people.

A Legacy of Toxic Contamination: the urban Delaware Estuary in the Greater Philadelphia region was the former

Query Manager, MARPLOT and the current Delaware database may be downloaded for free from our Web page at <http://response.restoration.noaa.gov/watersheddownloads>. For additional information, contact

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center of the industrial revolution and continues as a major industrial region. The area is also highly populated and developed. As a result, contaminants are considered among the top ten management issues in the Delaware Estuary.

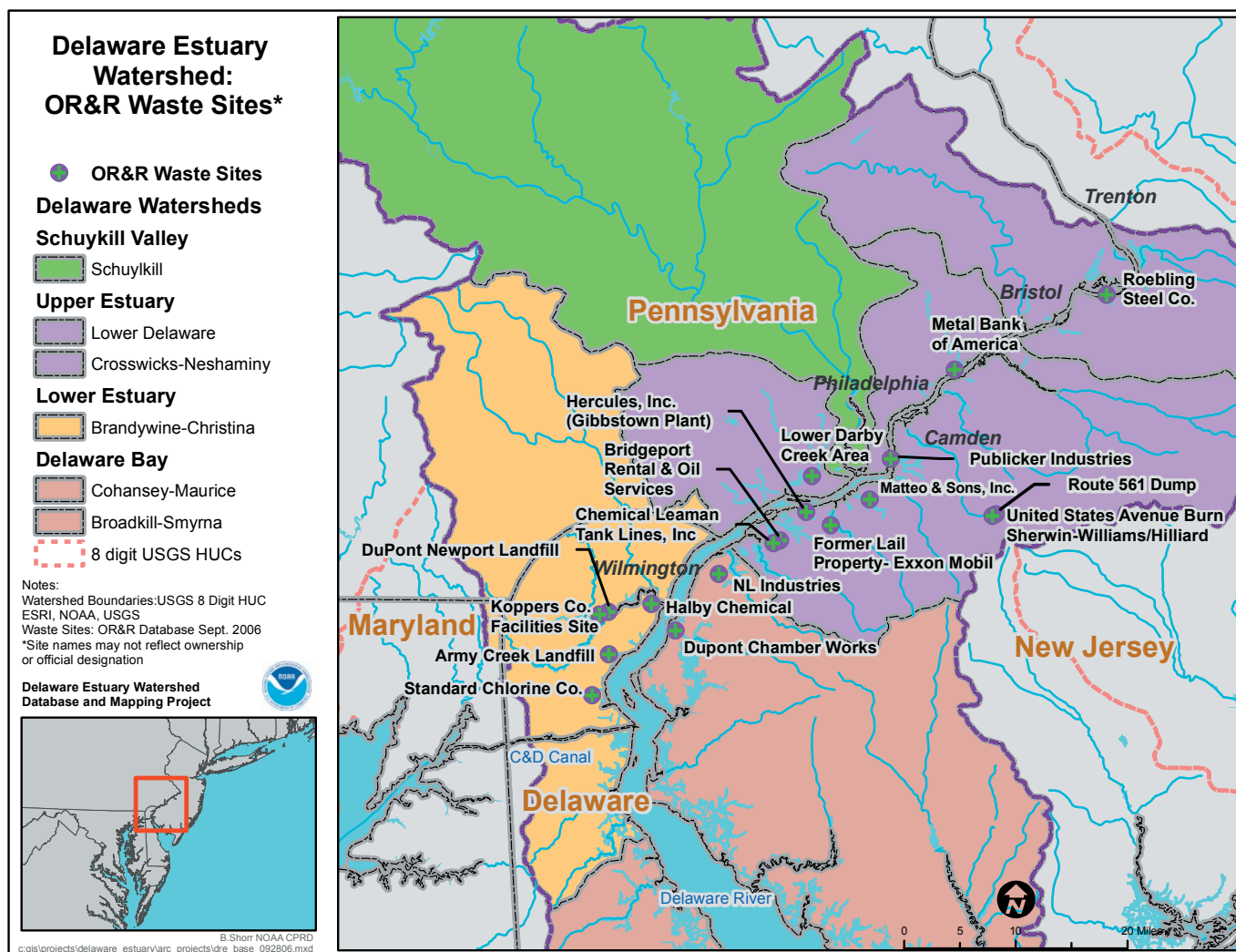
NOAA works closely with the U.S. Environmental Protection Agency (EPA) and state environmental agencies to ensure that waste site cleanup actions protect fish, shellfish, and marine and coastal habitats. NOAA is working on many sites that have been identified as potential sources of contamination to the Delaware Estuary watershed. Some example sites include the National Priority Listed (NPL) sites of DuPont Newport (Delaware), Lower Darby Creek (Pennsylvania), and Chemical Leaman (New Jersey). See the map on the reverse of this page for all sites. NOAA is also working with federal and state co-trustees to restore natural resources injured by the *Athos I*, *Bermuda Islander*, and International Petroleum Corp. oil spills. See <http://www.darrp.noaa.gov/northeast/index.html> for more information about these sites.

The Delaware Estuary Watershed Database and Mapping project: to enhance the coordination of cleanup and restoration activities in the urban estuary, data on toxic contaminants in sediments and biota were obtained from a variety of federal, state and other data sources, combined into a searchable database, and coupled with a GIS containing numerous features. An Internet Mapping Server is also provided. The project will help set priorities among contaminant sources in the watershed and facilitate remedial decision making. In addition, this project will aid the revitalization of estuarine and coastal zone communities in the Delaware Estuary by providing information on coastal habitats and identifying restoration opportunities that are critical in maintaining a healthy estuary.

Types of data in the Delaware watershed project include, but are not limited to:

- Sediment chemistry data from numerous sources
- Sediment bioassay study results
- Aerial photography
- Shoreline types
- Habitat features
- Location of existing and potential restoration projects

This Delaware Estuary Watershed Database and Mapping Project is a product of the 2006 Interagency Agreement between NOAA's Office of Response and Restoration and the EPA Hazardous Site Cleanup Division. This collaborative effort, called the Upper Delaware Estuary (Urban Corridor) Regional Cleanup and Restoration Planning Initiative, is intended to support the EPA Land Revitalization Program and land revitalization efforts at the regional, federal, state and local levels.



For further information about NOAA's Office of Response and Restoration,
please visit <http://response.restoration.noaa.gov>.
For further information about DARRP, please visit
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